

U.S. Army Materiel Command



Presented by:
MG David R. Gust
Deputy Chief of Staff
for
Research, Development and Acquisition

**Future Combat Systems Technology
Symposium and Exhibition
Closing Remarks**

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The Future ...

Some thoughts to ponder from the *Future Combat Systems Technology Symposium and Exhibition*, 27 - 29 June 2000:

“Transformation is not just a new idea ... it’s a BIG idea!”

- HON Paul J. Hoeper

***“Just as the Navy transitioned from battleships to carriers,
the Army is defining a new way to fight on the ground!”***

- Dr. Frank L. Fernandez

***“Fighting in the red zone has been between 2 and 4 kilometers ...
it will become 15 to 20 kilometers ... except
when it is 50 to 100 meters, in cities ...”***

- MG Daniel R. Zanini

“When the U.S. Army decides to do something ... consider it done!”

- GEN John M. Keane

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FCS - Responding to the New Paradigm

- ★ The transformation promises to be the greatest change the Army has seen since the advent of the tank and combat aircraft in WW I.
- ★ Only 'in your face' land power will let our national leaders decide when conflicts like Kosovo are over.
- ★ The Army of the new paradigm is:
 - ❖ network centric
 - ❖ robotics integrated
 - ❖ reliant on extended range engagement
 - ❖ capable of air-mobile operations with tactical lift
 - ❖ a capabilities based solution.
- ★ and ... ***it is so radical that it can't go smoothly.***

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How will We Do It?

- ★ Teamwork: Army S&T brings an unsurpassed suite of technologies; DARPA brings resources, and serves as catalyst, a technology enabler; Industry brings world leader capability to fully realize the vision.
- ★ Change the logistics footprint of the Army - change the fuel and munitions system and become strategically responsive. Make mobility real, for the force AND its logistics.
- ★ Emphasize lethality; revolutionize survivability; C4ISR provides a new notion of the battlefield: we don't search out hidden tanks, or sweep mines: we watch them hide or be emplaced.
- ★ Provide soldier systems, medical, and MANPRINT technology to support the soldier on the battlefield, and bring him home!



Our Technologies:

★ LETHALITY -

- ❖ **Common Missile** - Well structured program, including modeling and simulation that helps separate true requirements from 'creep.' [And makes a great video game, too!]
- ❖ **Multi-role Armaments** - Fire out of battery (FOOB) vs. fire in battery (FIB) recoil energy management; Electro-thermal-chemical yields insensitive, plasma ignited round.
- ❖ **CKEM** - ambitious size and weight goals
- ❖ **Multi-role cannon** - Fires a greater variety, faster rate, and longer continuous operation.

★ Crusader - 40 Km range, 2000 sq. mi. coverage!



Continued:

★ Survivability Technologies -

- ❖ Survivability IPT, headed by Dr. Whalin, ARL

- ❖ Mine Neutralization:

 - from 10 m now, to 30 m

 - from a 15 Km/h rate movement to 20 Km/h

- ❖ Two-stage ballistic protection:

 - full spectrum active protection to counter 1700m/s incoming

 - lightweight ballistic protection to catch the remains

- ❖ Multispectral obscurants that hide our systems and spoof the adversary.

- ❖ And even high energy lasers!

- ★ Survivability is the key to low weight and mobility:
System of Systems Architecture is Key to Survivability.



... More:

- ✱ **C4ISR is the brains and central nervous system of the FCS System of Systems.**
 - ❖ **Command posts are distributed - no more TOCs -- and LOG is built into C².**
 - ❖ **On-the move Commo. will provide controlled bandwidth, manage protocols, and provide service agility.**
 - ❖ **C² will be protected against network attack - a good news story.**
 - ❖ **Sensors and integrated situational awareness improve survivability.**
 - ❖ **The Engineers' Common Battlespace Environment - digital dirt - enables M&S support, battlefield decision making, and allows us to hide behind trees and mountains!**
(and find adversaries who try to!!)
- ✱ **Embedded training allows soldiers to train on their actual equipment and get their heads into the battle ahead of time.**

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Still More:

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In Conclusion -

- ★ **FCS is a tremendous challenge, with its accelerated schedule and cutting edge technology.**
 - ❖ **The government labs, research, development and engineering centers bring unique technology to the table.**
 - ❖ **We make ourselves available to industry ...**
 - ❖ **You are encouraged to contact us to learn more.**
- ★ **We thank AUSA for organizing the symposium, especially so, under the short timeline!**
- ★ **And we thank industry for continuing their faithful support that has made us the best Army in history!**